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Emotion, the bodily, and the cognitive

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In both psychology and philosophy, cognitive theories of emotion have met with increasing opposition in recent years. However, this apparent controversy is not so much a gridlock between antithetical stances as a critical debate in which each side is being forced to qualify its position in order to accommodate the other side of the story. Here, I attempt to sort out some of the disagreements between cognitivism and its rivals, adjudicating some disputes while showing that others are merely superficial. Looking at evidence from neuroscience and social psychology, as well as thought experiments and theoretical arguments, I conclude that it is necessary to acknowledge both that emotions have intentional content and that they involve somatic agitation. I also point out some of the more promising directions for future research in this area.

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1.

A few decades ago, cognitive theories of emotion were on the rise in both psychology and philosophy. Around the same time that Magda Arnold was persuading her colleagues in social psychology to note the essential role played by judgment or appraisal in human emotions – for instance, being frightened by a bear involves perceiving the bear as dangerous – philosophers such as Anthony Kenny and Robert Solomon were independently arriving at similar conclusions.[1] According to this school of thought, what enables a certain agitated state to qualify as an episode of fear, and what distinguishes it *as* fear rather than anger or another emotion, is its reference to some apparent danger, or something that is taken to be a potential source of harm: and this is a mental characteristic of the emotion, not a bodily one. This 'direction upon an object', as Franz Brentano calls it, is the distinctive feature of mental or 'intentional' phenomena in general: just as an assertion involves something that is being asserted, an emotion is likewise directed toward an intentional object. We acknowledge this, he observes, every time we say 'that we are pleased with or about something, that we feel sorrow or grieve about something' (Brentano [1874] 1973, 88–90). A focus on the cognitive aspect of emotions can be found in texts as early as Aristotle's *Rhetoric*, as Richard Lazarus points out (Lazarus 1991, 13–14; cf. Nussbaum 2001, 94).[2] Nevertheless, the philosophers and psychologists responsible for the more recent revival of cognitivism in the postwar era initially regarded themselves, quite justifiably, as facing an uphill struggle against prevailing theoretical paradigms.

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Since then, the situation has changed. In what is now a thriving field of interdisciplinary research, the cognitive view of emotions has become prevalent. Yet even if it is no longer credible to 'set irrational, seething emotions against the cool, analytic operations of reason' (Altieri 2003, 4), cognitivist theories have met with increasing opposition in recent years.[3] While Brentano's emphasis on the mental content of emotions is still celebrated by advocates of cognitivism, their opponents have often turned to William James for a different model:

> If we fancy some strong emotion, and then try to abstract from our consciousness of it all the feelings of its bodily symptoms, we find we have nothing left behind, no 'mind-stuff' out of which the emotion can be constituted, and that a cold and neutral state of intellectual perception is all that remains. (James [1892] 1985, 246–7)

Today, a newcomer to the field might be mystified by the amount of controversy that appears to be raging over the fairly basic question of whether or not emotions are cognitive. This disagreement is understandable: if emotions are mental states, then it is puzzling that they seem to involve a 'more conspicuous participation of the body' than other mental states (De Sousa 1987, 153); if they are states of bodily agitation, then we might expect them to lack intentionality (see Prinz 2004b, 54). On the other hand, this apparent dichotomy is somewhat deceiving, since the controversy that we are observing is not so much a clash between antithetical stances as a critical debate in which each side is being forced to refine and qualify its position. It is to be hoped that the entire debate 'may eventually become obsolete', since it has become 'more pernicious than it is helpful'.[4] In the interest of suggesting directions for future research, I attempt in this essay to sort out some of the points of contention between cognitivism and its rivals, offering some ideas about how some of these disputes might be resolved.

2.

In current work on the emotions, it is common for conceptual arguments to be supplemented by experimental findings. Often, both the cognitivists and their adversaries claim that the best available evidence weighs in favor of their side of the debate. For example, in his well-known book *Descartes' Error*, neuroscientist Antonio Damasio cites an impressive array of research in support of the conclusion that emotions are 'just as cognitive' as other forms of mental activity (Damasio 1994, xv, 159). Meanwhile, Joseph LeDoux, another prominent neuroscientist, has brought his own empirical work to the attention of a nonspecialist audience by reporting in *The Emotional Brain* that 'emotion and cognition' ought to be classified as separate processes, due to the 'quick and dirty' nature of an affective response such as being startled by a loud noise (LeDoux 1996, 69, 163). Faced with these conflicting results, cognitivists tend to highlight Damasio's research as proof that emotions are indeed an essential component of rational thought (see, e.g. Nussbaum 2001, 114–7; Solomon 2007, 166), while non-cognitivists are more likely to emphasize LeDoux's assertion that emotions are thoughtless bodily reflexes, divorced from 'higher' and supposedly *slower* modes of cognition (see, e.g. Prinz 2004a, 34; Robinson 2005, 47–52).[5]

How could we account for such disparate findings? One approach would be to take a closer look at the considerable differences in method that separate the two neuroscientists. Damasio's research is focused on people whose affective capacities have been hampered as a result of injury to particular areas of the brain. He has discovered that damage to the

amygdala or the prefrontal cortices can reduce emotion to such a degree that practical reasoning is drastically impaired (Damasio 1994, 44–51, 69–70). This seems to warrant the inference that emotion and cognition are closely related, rather than being discrete and independently-functioning systems (Damasio 1994, 175, 200–1). LeDoux, by contrast, has mainly studied fear behavior in rats. By exposing these creatures to a sudden acoustic shock and observing the neurobiology of their reaction, he has concluded that such an immediate 'startle' response can take place even if only subcortical neural pathways are activated (see LeDoux 1996, 150–65). Based upon that evidence, he argues that a similar process is likely to go on in human beings: for example, when a hiker encounters a snake just ahead of him on the trail, his instant reaction may involve a 'low road to the amygdala' that is triggered prior to any cortical processing of the visual stimulus in question (LeDoux 1996, 161–6). The upshot of this research, as Jesse Prinz explains, is that 'if fear can occur without mediation of the neocortex, then perhaps fear can occur without cognition' (Prinz 2004a, 34).

Needless to say, LeDoux's findings pose a serious challenge to the cognitive theory of emotion. And some of the contemporary literature makes it sound as though the existence of subcortical emotions, free of 'higher' cognition, had been decisively established. In a typical survey of recent emotion research, one scholar states unequivocally that 'fear is controlled by two separate pathways in the [human] brain', reprinting LeDoux's diagram of the postulated 'high' and 'low' routes to the amygdala (Evans 2001, 36–7). But this is jumping the gun, to say the least – especially in light of ongoing doubt among leading neuropsychologists as to whether LeDoux's conclusions are justified.[6] Damasio himself says that he 'cannot endorse' the proposition that emotions and feelings are confined to 'the brain's down-under', since a hiker could not even see what appears at first glance to be a dangerous snake without the participation of the cerebral cortex (Damasio 1994, 160–4).[7] Pessoa agrees that emotional responses involve 'coalitions' of different brain areas, none of which should be thought of as exclusively affective *or* cognitive (Pessoa 2008). In his comprehensive study of emotion and the brain, Edmund Rolls registers a similar complaint. It is 'unlikely that the subcortical route' posited by LeDoux 'is generally relevant to the learning of emotional responses', since we have good reason to think that any perceptual event more complex than sensing 'blobs of light' – hearing a familiar tune, for instance, or seeing and recognizing a facial expression – requires the kind of higher-level cognitive operations that are associated with different neural regions (Rolls 2005, 169–70). As other researchers have suggested, it is somewhat hasty to make generalizations about the nature of human emotion based on a limited set of data having to do with fear conditioning in rats (see, e.g. Brothers 2001, 26, 55). While he doesn't exactly discourage us from making this extrapolation, LeDoux does advise caution, reminding his readers that even the all-important amygdala is only correlated with experiences that are undergone by the whole organism.[8] We should therefore refrain from talking about this part of the brain as if it were the location where emotions take place, or an independent center of agency that is having emotions of its own.

Unfortunately, philosophers are not always cautious enough to hesitate from rushing in where others fear to tread, or from making strong claims in cases where the physiological data are indefinite at best. According to Jenefer Robinson, even though LeDoux's research deals with 'conditioned fear in rats', it nonetheless 'has wide and important implications for naturally occurring fear – including fear in human beings – as well as for the study of emotion in general' (Robinson 2005, 48). Even when we are experiencing subtle and complex emotions while reading a Tolstoy novel, she contends, these at first are nothing but rough and ready 'affective appraisals' that are independent of any cognitive processing

(Robinson 2005, 114–5). It takes quite a bit of stretching for a non-cognitive theory of emotion to cover everything from an instance of responding to a flash of light to an episode of being moved on behalf of Anna Karenina's predicament; however, this is the range that any general account of emotion must encompass. Toward one end of the spectrum, we have the simple affective reflex of being startled by a fire hydrant that is momentarily mistaken for an animal because of its vertical axis of symmetry; at the other end of the same continuum, we have the viscerally jolting but highly thought-informed experience of seeing a person that we were hoping to avoid after a recent dispute. In the latter case, one's response engages a whole set of intelligent attitudes and beliefs; in the former, it does not.[9] But here the cognitivist will maintain that his or her theory of emotion can more readily account for both examples: no matter where the neurons are firing during each affective response, both cases show the whole organism responding in a way that makes sense in terms of some perceived danger, and this reference to an intentional object gives us reason to classify the response as cognitive. To be anemic is to be in a certain physical condition, independent of whether or not one is aware of it; to be afraid, however, one must be aware of an apparent threat.

Experiments involving facial and somatic feedback have uncovered more compelling evidence for a non-cognitive view of emotions as primarily defined by bodily states. When the musculature of the face is manipulated toward an open-mouth smile, subjects are more likely to be amused by a cartoon (Strack, Martin, and Stepper 1988). When facial configurations associated with negative affects are induced, subjects tend to have a more disagreeable emotional response to the same narrative (Zajonc, Murphy, and Inglehart 1989).[10] Admittedly, other studies have been inconclusive, prompting one social psychologist to acknowledge that 'the contribution of facial feedback to emotional experience is less than convincing' (Matsumoto 1987, 773). But even if adopting a sad or angry facial expression does not automatically *produce* sadness or anger, it does seem that a person who is inadvertently making such an expression is more susceptible to experiencing the corresponding emotion. And the same goes for other sorts of somatic feedback: an upright posture is not sufficient for creating pride, but it may help to facilitate pride, lowering the threshold of what counts as having a reason to feel proud (Stepper and Strack 1993, 215–6).[11] By shaking their heads as if in disagreement, or extending their arms in a gesture of pushing something away, subjects can more easily process words with negative connotations.[12] When facial or proprioceptive cues are subjectively felt, they can clearly have an impact on our dispositions toward emotion. If I receive a shot of adrenaline, this will not *induce* anger; but it may make me feel 'as if' I were angry, thus leaving me more irascible as a result.[13]

Aristotle long ago remarked on this phenomenon: namely, that a person is sometimes moved to become angry at a slight provocation, when the body is in a state akin to that of actual anger.[14] Now, the notion of a physical state *resembling* that of an angry person would be unintelligible unless anger is characterized by a fairly distinctive pattern of physiological agitation. And some evidence suggests that it is: research on bodily changes associated with facial feedback has linked anger with a marked increase in heart rate and skin temperature (Ekman, Levenson, and Friesen 1983, 1209; see also Ax 1953 and Prinz 2004a, 72–4). Fear is also distinguished by a spike in heart rate, but it involves a slight *drop* in skin temperature and a more pronounced decrease in diastolic blood pressure than anger, whereas disgust is accompanied by a mild lowering of both heart rate *and* skin temperature. Emotion researchers have conceded that these results indicate only 'small' and 'coarse' distinctions between the physiological contours of one emotion and those of another (Levenson 1992, 26 and Rolls 1999, 72), and that they are based on simulated

affects in a laboratory setting and do not imply that every episode of a given type of emotion will necessarily involve the same pattern of bodily changes (Levenson, Ekman, and Friesen 1990, 379–81).[15] Some emotions may not involve any conspicuous physical arousal at all (Buck 1984, 48).[16] Furthermore, cognitivists have their own set of canonical experiments illustrating that beliefs and judgments can have a powerful effect on our emotions (see, e.g. Lazarus and Alfert 1964; Smith and Ellsworth 1985; Roseman 1991; Scherer 1993).[17]

Yet even after all of these qualifications have been made, the evidence is too significant to be ignored: in many cases, the feeling of being in a certain emotional state does include a sense of the visceral changes associated with that emotion (cf. Tye 1995, 126; see also Redding 1999, 17–21 and Lyons 1980, 60). It may be true that I cannot get angry at you unless I am convinced that you have slighted or offended me; but if my pulse is racing and my skin is flushed for some other reason, then I am already in a bodily state resembling the state of anger, and as a result I may be more irascible and more easily provoked to become angry. When Solomon and Martha Nussbaum claim that somatic feelings are inessential factors that cannot reveal the identity of an emotion, they appear to be overstating the case for cognitivism.[18] The characteristic patterns of bodily agitation associated with certain emotions can hardly be dismissed as extraneous phenomena that happen to accompany the emotions themselves. Perhaps there are types of emotion for which a certain bodily state is necessary but not sufficient for an episode of that emotion. Robert C. Roberts offers a more nuanced view, admitting that 'when a person succeeds in disposing his facial muscles in just the pattern characteristic of disgust or fear', he is likely to feel 'something like disgust or fear', or 'as he would feel were he in a state of disgust or fear'. Still, he continues, 'a person who is really fearful fears *something*', even if the object of fear is ill-defined, and likewise 'a person who is really disgusted is disgusted by or about *something*. . . . But none of this is possible in the case of a feeling of fear or disgust generated by just manipulating the facial muscles' (Roberts 2003, 339). This suggests that a notion of intentionality must also be incorporated into any successful account of emotions as bodily responses. Nonetheless, the role of the body in our affective experience cannot be dismissed as merely random or accidental. The correlation between certain emotions and certain patterns of bodily agitation is too strong to be merely coincidental, and in some cases a specific bodily response may be necessary in order for the emotion to exist at all.

3.

Granted that most if not all emotions have obvious mental *and* bodily aspects, the more interesting disagreements in this area concern the issue of whether one aspect has some kind of logical or causal priority. When James puts forward a thought experiment purporting to show that no emotion would remain if we subtracted all feelings of visceral turbulence from the experience of fear, he is arguing for the importance of bodily change as opposed to cognition as a core feature of the emotions. He suggests that the pattern of physiological agitation is a sufficient condition for the experience of emotion, while the intentional state is not even a necessary one. If we could remain unafraid while being sincerely convinced that we are faced with immediate danger, or frightened while knowing full well that no danger exists, this would suggest that fear has no essential connection with our cognitive states. According to James, this is indeed possible: a person may experience stage fright in front of an audience filled with strangers even if he is 'inwardly convinced that their feeling towards him is of no practical account' (James 1884, 195). With this

example, he introduces a type of thought experiment that has been repeatedly employed by critics of the cognitive theory.

Robinson, for instance, appeals to the case of someone who once had a car accident in a blizzard caused by a 'bad skid' on a snowy road: now, she fears this kind of skidding 'regardless of whether or not she is really in danger' (Robinson 2004, 41–2).[19] Peter Goldie agrees that it is possible to feel 'as if' something is dangerous while sincerely believing that it is not dangerous in any way, or to recognize that it *is* dangerous without responding fearfully (Goldie 2000, 22–37, 76–81). He cites Hume's example of a man 'hung out from a high tower in a cage of iron', who is afraid of falling even though 'he knows himself to be perfectly secure' (Hume [1739] 1978, 148). Along the same lines, Roberts submits that 'racist emotions' such as fear and contempt could still be felt toward people of color by a white person who has rejected his formerly bigoted judgments and beliefs (Roberts 1988, 195–7).[20] And, as Michael Stocker adds, a passenger in an airplane could be frightened by the prospect 'that the plane might crash', without having any good reason to believe that it will (Stocker 1996, 38–9). In each of these examples, a person's emotions are in conflict with his or her acknowledged beliefs.

But is the actor with stage fright really 'inwardly convinced' that there is nothing to fear? Does the man suspended from a tower in an iron cage really *know* that he is 'perfectly secure'? Would it be reasonable to believe that there is *no* danger of crashing when one is riding in an airplane or driving a car, even in winter conditions or during a skid? If people who are trembling with fear are not entirely convinced that there is nothing to be afraid of, then there is more to be said about each of these cases (Kristjánsson 2001, 404–5).[21] Perhaps the character plagued by 'visceral racism' is better understood as experiencing a conflict, not between reason and feeling, but between the cognitive attitudes he wishes to adopt and those that actually govern his way of seeing the world (Jaggar 1989, 159).[22] Much of the time, our gut feelings are consistent with our avowed beliefs; when they are not, this does not demonstrate that beliefs *per se* are ineffectual with respect to the emotions. What it shows, rather, is this:

> Our cognitive life is not limited to clear, fully conceptualized, articulated beliefs. Instead, beliefs constitute only a small illuminated portion of that life. The greater portion is rather a dark cognitive set, an unarticulated framework for interpreting our world, which, if articulated, would be an enormous network of claims not all of which would be accepted by the individual as his [or her] beliefs. (Calhoun 1984, 338–9)

What is it to be completely convinced that there is no reason to be afraid? As far as our emotional dispositions are concerned, it makes little difference whether we consciously believe that we are in a dangerous situation or whether we simply view the situation as dangerous. Either way, our emotions reveal something about how we experience the world: if I am afraid, then I must find the world threatening in some respect. This is best accounted for by a theory of emotion that places due emphasis on the cognitive or intentional content of emotions. The person who is frightened for his sister's safety when she goes out on an interracial date is not someone whose emotions lack intentional content, but someone whose intentional attitudes are those of a racist. Whatever this kind of example may show us, it does not provide support for the thesis that emotion and cognition are categorically divorced from one another.

One possibility worth considering is that emotional responses might be distinguished by a mode of intentional awareness that falls somewhere between propositional judgment and noncognitive bodily sensation. Some recent theorists have argued for a modified version of

cognitivism, according to which emotions are defined as perceptions of value or significance, where 'perceptions' are understood as involving rationality or being informed by what one believes (see, e.g. Tappolet 2003; Furtak 2005). And others have argued in favor of defining emotions as perceptual impressions, construals, or value-apprehensions, which have intentional content but are not to be equated with conceptual judgments (see Döring 2007; Roberts 2003; Fitterer 2008). Each of these theoretical approaches shares the attractive feature of defining emotions as 'cognitive' in a qualified sense: that is, emotions are embodied yet thoughtful modes of intentional experience, which have the immediate felt quality of sense-perception and reveal how the world appears to a particular subject. If this is right, then emotion is a special form of cognition, not categorically divorced from cognitive activity but also not the same as other cognitive processes. Therefore, we can regard emotions as rational phenomena only if we reject the 'classic view of rationality', which ignores the fact that reason is 'fundamentally embodied' and assumes that it must always be conscious and dispassionate (Lakoff and Johnson 1999, 513–4).[23]

Being afraid, then, is not merely 'feeling my body shake or my heart beat', but experiencing the world as providing me with some reason for fear, whether it be 'an impalpable threat' or 'a terrifying presence' (Ricoeur 1966, 271). As an alternative to thought experiments of the Jamesian variety, the cognitivist might very well ask: would fear be anything like the emotion that it is if we took away any sense of danger and left behind only physical symptoms, such as elevated pulse rate and so forth?

> If a man starts back, trembling and nauseated on coming face to face with a lion, he is said to be in the grip of the emotion, fear, because his symptoms arise from an understanding on his part that he is in danger; if the starting, trembling and nausea had been caused directly by an electric shock, without any perception of danger on his part, then they would not constitute the emotion, fear. (Letwin 1987, 86–7)

Here we have a description of fear that includes mention of bodily changes, while making it clear that those are not what the emotion is *about*. To stipulate that fear is nothing other than our awareness of certain bodily changes, as James sometimes does (James 1884, 189–90), is to identify *one's own body* as the object of the fear: yet this is not what we are afraid of (De Sousa 1987, 251).[24] My fear, in other words, is not about my own bodily processes. When I become afraid of a large wild animal nearby, this emotion is directed toward a specific object. And my recognition of that animal is not an abstract or disembodied thought tacked onto my emotional state; it is an intrinsic part of it.[25] To capture their intentionality, we must abandon the idea that emotions are perceptions *of* bodily states. Apart from cases in which a bodily condition (such as a heart murmur) is the object of an emotion (such as worry), emotions do not have bodily states as their intentional objects. One's own body is not the object of a typical emotion, any more than one's own retina is the object of a typical visual perception. But our emotions do, perhaps essentially, *involve* our bodies in our apprehension of the world.

Theorists who regard emotion as primarily cognitive, therefore, do not need to deny that bodily feelings play a palpable role in affective experience. There is no logical contradiction in acknowledging that emotions have intentional content and that they also involve somatic excitation. What this may show is that cognition is embodied, not that emotion is partly cognition and partly something else. The cognitive theory of emotion, in its most plausible form, makes room for the fact that our 'feelings about' something can be mental and bodily at once: that is, 'a knowing consciousness that is at the same time an affective consciousness does not have *one part* knowledge and *one part* feeling', as if these could be

separated (Sartre [1940] 2004, 72–3; cf. Goldie 2000, 19). Rather, we become aware of the animal we believe to be harmful and are disturbed by its appearance, in an experience that is wholly permeated by cognition and feeling at the same time. Because our *feelings about* that animal are simultaneously intentional ('about') and somatic ('feelings'), it is not arbitrary to bring the two aspects of fear together under the same description. There is no reason to assume that what we experience upon seeing the animal is either a mental event with physiological consequences or a bodily process followed by conscious awareness: rather, the cognitive and the bodily are bound together as two aspects of a single, unified experience.

If this is correct, then it makes little sense to quarrel over whether emotions ought to be defined as 'embodied appraisals' that 'tell us how we are faring in the world' (Prinz 2004a, 69–78) or as 'bodily evaluative judgments' that inform us about 'ourselves and our place in the world' (Solomon 2007, 204–6). Yet the first definition is by Prinz, who defends what he calls a noncognitive somatic theory of emotion, while the latter is by Solomon, one of the foremost cognitivists. Both philosophers acknowledge that emotions are palpably embodied and that they involve mental or intentional reference to the world: they differ only in the emphasis that each gives to the bodily and the cognitive. Nor is this the only example of emotion theorists talking past one another. Robinson identifies an emotion as a 'noncognitive' affective appraisal that happens 'very fast, automatically' and 'concerns those things that "matter" to the organism' (Robinson 2004, 33–7). Martha Nussbaum, on the other hand, argues for 'a type of "cognitive" view' according to which emotions are 'judgments of value' in which we appraise 'an external object as salient for our own well-being', and that tend to be quick, inarticulate, and hard to control (Nussbaum 2001, 19–23). Solomon explains that his 'cognitive' theory does not require that emotions are 'deliberate' or 'fully conscious' (Solomon 1988, 183–91), yet Robinson cites the fact that emotions occur 'without any conscious deliberation' as proof that they are 'noncognitive' (Robinson 2005, 44–6). And despite Nussbaum's insistence that 'emotions are, like other mental processes, bodily' (2001, 25), Prinz reports that 'cognitive theorists are united' in holding that the mental components of emotion 'are disembodied' (2004a, 25). Moreover, the psychologists find themselves engaged in this kind of dispute as often as the philosophers. Taking aim at cognitive theorists such as Arnold and Lazarus, Robert Zajonc argues that cognitions and appraisals must be slow and laborious, 'cold', and highly refined, and that affective reactions are none of the above (Zajonc 1984, 117–23); meanwhile, those on the other side of the debate (such as Lazarus himself) maintain that cognitive appraisals can be unreflective, involuntary, heated, and immediate (see, e.g. Ellsworth 1994).[26]

It would be disingenuous to suggest that 'the facts' warrant one position or the other, when so much of the disagreement between cognitive theories of emotion and non-cognitivist alternatives hinges on the question of how to interpret certain features of emotion that are agreed upon by all parties. When faced with a case such as the 'startle' response, members of the different camps weigh in for or against allowing it to qualify as an emotion, depending on how well it fits their preferred definition. So the cognitivists complain that the 'startle' response is a primitive reflex, 'not an emotion at all', since it has little evaluative content (Solomon 2007, 48; cf. Lazarus 1991, 53–5). Meanwhile, Robinson (1995) views it as a prototypical emotion, which illustrates many traits that are possessed by other emotions. If theorists could simply agree about what to identify as an emotion, then some amount of fruitless controversy would vanish. Does fear lie in the initial shudder of alarm upon hearing a noise, or in the horror that sets in after one has recognized what one has just heard? The way we answer this question may determine which theory we favor. Most of the time, however,

there is a significant amount of common ground beneath these terminological skirmishes. Even the possibility of being startled might rely upon a tacit 'horizon of anticipation', an intentional attitude that is implicit in our embodied capacity to react to unexpected stimuli (Zahavi 2003, 83; see also Casati and Pasquinelli 2007). And this case is emblematic of how both sides of the story might be encompassed by other explanations. Many superficially divisive issues could be resolved if everyone were to stop assuming that bodily states are devoid of intelligence, and that cognition must always be cool, deliberate, and incorporeal – not to mention, linguistically sophisticated.

The arguments over cognitivism demonstrate that we don't have a universally accepted definition of cognition, such as would enable us to argue coherently over whether or not emotions are cognitive. How might some of the disputed examples appear in a different light if we were to give up the assumption that emotions must be *either* bodily *or* cognitive, but not both? We might look again at the driver afraid of skidding on a snowy road, and link her somatic feelings of terror with a heightened awareness of the dangers involved in winter driving. Rather than implausibly maintaining that she 'knows' that she is perfectly safe, while classifying her affective response as an utterly unreasonable phobia, we could acknowledge that her overwhelming fear is directly related to her unusual sensitivity to the real dangers of driving in the snow – a sensitivity which has a somatic aspect, but which we cannot account for without making reference to its intentional content (after all, her fear would be irrational in a very different sense if she were afraid of sliding on the ice in the middle of the summer). Likewise, we might discover a better way of explaining the difference between two people who profess the same beliefs about racial tolerance, but one of whom feels emotions that are at odds with those beliefs. In order to do justice to the complex phenomena we are dealing with, we must jettison theoretical prejudices which encourage us to pay selective attention to either the cognitive *or* the bodily aspect of emotion. If we could move past the all-or-nothing arguments between those who advocate a cognitive theory of emotion and those who oppose it, then we would find ourselves in a position to describe and appreciate our affective responses more adequately.

There are some indications that the ongoing debate about cognitivism may become marked less by needless polarization and more by constructive exchange and elaboration. I have already made note of several recent emotion researchers who provide a more subtle account of the intentional content of emotion, on the model of aspect-seeing, perceptual awareness, or some variation on this theme. Let me conclude by suggesting how this sort of approach might succeed to some degree at reconciling the diametrically opposed positions in this debate, rather than perpetuating it in slightly different terms or sidestepping it altogether. Sabine Döring, for instance, describes emotions as 'affective perceptions' that have intentional content: an emotion involves viewing the world in a certain way. Emotional intelligence, then, is more a matter of seeing things accurately than of drawing correct inferences (Döring 2007; cf. Calhoun 1984, 342). Leaving aside the question of how to arrive at the right way of seeing, we can appreciate how such a theory could accommodate both the position defended by Zajonc (1980), who holds that 'preferences need no inferences', and Nussbaum's claim that emotions involve a cognitive 'way of seeing' things (2001, 27–8). On this view, a change of emotion would represent, not necessarily a change of belief, but a change in how one actually perceives the world. To borrow an example from Christine Tappolet, who has based her modified cognitivist theory upon the idea that emotions are nonconceptual perceptions of value, a person could intelligibly and perhaps reasonably fear crossing a narrow bridge over a deep chasm, even while having good reason to believe that the bridge is safe and that there is little risk of falling (Tappolet 2003, 111). Here, the conflict between the perceived danger and one's beliefs

about the stability of the bridge is a conflict between intentional attitudes that each involve attending to certain information, or certain features of the situation – it is not a conflict between an emotion, which is simply irrational, and one's better judgment. As for the driver who is especially sensitive to winter driving conditions, we might say that if she experiences fear due to a heightened awareness of immediate dangers then this is because she is perceptually aware, without making any inferences, that the road conditions may affect her safety; and this awareness may either save her life or interfere with her ability to think about anything else. As this example suggests, a complete theory will make sense of why emotions are sometimes regarded as a potential source of insight, *and* why they are also classified as bodily disturbances. In order for the dichotomy between the mental and physical aspects of emotion to seem less inevitable, future theorists must continue to develop a conceptual vocabulary that makes room for both the cognitive and the bodily under a single heading.

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Notes

1. See Arnold (1960), Arnold (1974), Kenny (1963), and Solomon (1976).
2. Aristotle and Aquinas are cited as important antecedents by Arnold (1974, 147–8). It is perhaps no coincidence that the same figures in the history of ideas played a key role in the development of Anthony Kenny's theory as well (Kenny 1963, 16).
3. Prominent critics of the cognitive view include Prinz (2004a) and Robinson (2005); see also Armon-Jones (1991) and Charland (1995).
4. I quote Stepper and Strack (1993, 219), then Charland (1997, 556). Stepper and Strack advocate an 'integrative exploration' of the mental *and* bodily aspects of emotion, while Charland encourages 'a reconceptualization that integrates and encourages dialogue between both camps' in this debate.
5. Cf. LeDoux (1996, 40–1): 'It is difficult to imagine emotions in the absence of their bodily expressions'.
6. On whether or not LeDoux's conclusions are defensible with respect to fear behavior in rats, see Campeau and Davis (1995). On whether they can be extended to emotions other than fear, see Anderson et al. (2003). See also Davidson (2005, 74).
7. Cf. Panksepp (1998, 307): the brain areas associated with 'affective and intentional consciousness' include, but are not limited to, subcortical regions.
8. LeDoux (1994, 56): 'The amygdala is certainly crucial, but we must not lose sight of the fact that its functions exist only by virtue of the system to which it belongs'. Robinson ascribes to the amygdala itself the ability to 'compute' the 'affective significance' of a stimulus, speaking as if there is a specific 'circuit' in the brain 'where the emotional significance of threat is registered' (Robinson 2005, 49).
9. Commenting on Robinson (1995), Martha Nussbaum writes: 'To call an emotion cognitive does not, of course, entail that it is either conscious or reflective; it is just to say that it involves processing of information', plus at least a 'rudimentary appraisal of the situation' (Nussbaum 2001, 115). Cf. Robinson (2005, 43): paradoxically enough, 'non-cognitive' appraisals can function as 'information-processing devices'. On the adaptive value of having one's attention drawn to vertically symmetrical objects, see Dennett (1991, 179).
10. In this study, similar stories were read aloud in which the main character was named either 'Peter' or 'Jürgen'; over 80% of subjects found the story about Jürgen more unpleasant,

probably because the high and low vowel sounds of the two names move the mouth in the direction of either a smile or a frown. Flack (2006) points out that facial expressions tend to have a stronger effect on perceived emotion than bodily postures.

11. As Stepper and Strack explain, grounds for having 'a full-blown emotional experience' of pride would include beliefs about having succeeded at some difficult task. The data from numerous studies appear to support a 'weak version' of the thesis that bodily feedback influences emotion, according to Roberts and Arefi-Afshar (2007, 715).
12. See Förster and Strack (1996), Neumann and Strack (2000), and Duckworth et al. (2002). The first study deals with the quality of affective recall, the second and third with the speed of classifying words and responding to valenced images.
13. Marañon (1924, 306); see also Cornelius (1991) and Cannon (1927, 114). Further analysis of this evidence is provided by Elster (1999, 248); Prinz (2004a, 70); and Gordon (1987, 94–6).
14. Aristotle, *De Anima*, 403a.
15. Somatic changes may differ more greatly in cases where a wide array of action tendencies are available, as Richard Davidson points out. Noting some inconsistency across various studies, and the likely variation from one individual or context to another even in cases of the same emotion type, he concludes: 'the evidence does not support the idea that different discrete emotions have unique and invariant autonomic signatures' (Davidson 1993, 467–8). Cf. Robinson (2004, 31): the magnitude and specificity of the observed autonomic differences are 'hardly enough to justify the claim that each emotion has a uniquely identifying physiological profile'. See also Robinson (2005, 28–32) and Roberts (2003, 152–5).
16. See also Frijda (1986, 172–3): in some instances, emotions are 'without physiological upset of any note'. For other evidence of a disconnect between felt affect and bodily arousal, see Cannon (1927) and Chwalisz, Diener, and Gallagher (1988).
17. The first of these is the 'subincision' study in which emotional responses to watching a movie were conditioned by beliefs about what was being watched; the last involves a computer program that asked questions to subjects about their memories and then identified their emotions based on 'appraisal judgments'. On the need for 'coherence' between 'cognitive and bodily cues', see Centerbar et al. (2008, 576).
18. From the 'feeling of agitation all by itself', Nussbaum argues, we cannot distinguish what type of emotion we are undergoing (Nussbaum 2001, 29; cf. Solomon 1976, 99). I am also guilty of having overstated the case on behalf of cognitivism (see Furtak 2005, 12).
19. As she claims, a sense of threat does not require the belief that there is danger near (Robinson 2005, 19–22, 98). Robinson credits Patricia Greenspan as the source of this first-person example: see Greenspan (1988, 17–26).
20. See also Rorty (1980, 103): 'changes in emotions do not [always] follow changes in belief'.
21. Because phobic fear is so frequently cited as evidence of an alleged discrepancy between emotion and belief, it may be deserving of special attention in its own right (Pugmire 1998). For different reasons, love is not necessarily explained by general statements about the rationality of emotions, as many theorists have noted. See Robinson (2005, 24); Neu (1996, 64) and Nussbaum (2001, 51, 123). As Frankfurt (2004) and Furtak (2005) point out, this may be due to the foundational place that love occupies at the basis of practical reason.
22. Cf. Aristotle, *Nicomachean Ethics* 1147a: those who have just learned something say the right words but do not yet know their meaning, for this knowledge must grow into them over time.
23. See also Rorty (1980, 125): she credits Stich (1978) with offering 'excellent arguments for the necessity of postulating intentional states that are not beliefs'.
24. Likewise, Damasio (2003) is criticized by Nico Frijda for focusing on 'information involving the body' without appreciating 'the momentary relation of the body to the world' (Frijda 2005, 481–2).
25. See Arnold (1960, 111): the difference between one emotion and another 'cannot be explained by pointing to the abstract knowledge of a difference in cause'. It will not suffice to define emotions as perceptions of bodily changes that have been 'reliably caused', either (Prinz 2004a, 66–9). This mistakenly identifies what is being perceived, dividing the affective response from its context as if it did not refer to anything in the surrounding environment.
26. Zajonc's conception of affect 'is not really all that different from the process of appraisal as described by Arnold', and the 'difference between the positions of Lazarus and Zajonc boils down to how one ultimately defines cognition and appraisal' (Cornelius 1996, 118–30). A similar view is endorsed by Kappas (2006).

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